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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,965

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Yasuhiro Maenishi

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EXAMINER

BAHTA, KIDEST

ART UNIT

PAPER NUMBER

2123

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,965

Applicant(s)

MAENISHI ET AL.

Examiner

KIDEST BAHTA

Art Unit

2123

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12 and 14-16 is/are rejected.
- 7) ☐ Claim(s) 4-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 10-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 5,862,586) in view of Maenishi et al. (US 6,289,582).

Regarding claims 1, 14-16, Kimura discloses a component supply unit (Components supplying region, S); and placement head operable to pick up components from the component supply unit and operable to mount the picked-up components onto the board (column 8, lines 14-18), wherein the mounter mounts the components onto the board according to (i) component placement patterns of the board (column 3, lines 20-50) **or** (ii) groups of component placement patterns of the board, and wherein each of the component patterns **or** groups of component placement patterns identifies a specific mounting arrangement of specific components to be mounted onto the board (column 3, lines 33-42), wherein the board is transported from a first mounter located upstream to a second mounter located downstream (Abstract), such that the components are mounted onto the board in an order starting from the first mounter and continuing to the second mounter (column 4, lines 1-21).

Kimura fails to disclose the optimization method includes an respectively allocating components to each of the mounters on one of a (i) per component placement pattern basis and (ii) per group of component placement patterns basis such that, during the transporting of the board, each of the mounters mounts every component of a respective component placement pattern or a respective group of component placement patterns.

Maenishi discloses the optimization method includes an respectively allocating components to each of the mounters on one of a (i) per component placement pattern basis and (ii) per group of component placement patterns basis such that, during the transporting of the board, each of the mounters mounts every component of a respective component placement pattern or a respective group of component placement patterns (column 10, lines 43-67).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify the teachings of Kimura with the teachings of Maenishi because it allows the components, which have been fed to the component feeder, to be exhausted at the same time. As a result, the frequency at which the component mounting apparatus comes to a halt due to component exhaustion can be reduced, while the operation rate of the component mounting apparatus can be improved. Moreover, the time of unattended operation that requires no monitoring of the operator can be increased, so that the productivity can be improved.

Regarding claims 2 and 3, Maenishi discloses the optimizing the order of component for any one component placement pattern among a plurality of component patterns; the respectively allocating of the components further comprises: determining, from (i) a total number of a component placement

patterns of the board and (ii) a number of available mounters in the component mounting system (column 10, lines 46-67), a number of respective component placement patterns to be allocated to each respective mounter so that the number of respective component placement patterns allocated to each respective mounter is approximately the same (Fig. 1-5); and allocating the number of respective component placement patterns determined by the determining of the number of respective component placement patterns to any of the plurality of mounters for component mounting (column 8, lines 26-39).

Regarding claim 10, Maenishi discloses the allocating of the number of respective component placement patterns the determined number of respective component placement patterns are allocated to each respective mounter based on which components are to be mounted, so that borders between the determined number of respective component placement patterns allocated to each respective mounter of the are set orthogonally to a direction in which the board moves through the component mounting system (Fig. 1-5).

Regarding claims 11-12, Kimura discloses determining a position of the board during component mounting so that a moving distance (Fig. 10-11), from a default position to an allocated pattern, of a head of each of the mounters is uniform for all of the mounters, the head being used for mounting components onto the board (column 10, lines 38-50); determining placement positions of component cassettes used in component mounting so that a distance from the

placement positions of the component cassettes to an allocated pattern, for each of the mounters is uniform (Abstract, Fig. 16).

Allowable Subject Matter

2. Claims 4-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment/Response to Arguments

3. Applicant's arguments with respect to claims 1-3 and 10-12, 14-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

Art Unit: 2123

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kidest Bahta whose telephone number is 571-272-3737. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PMR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kidest Bahta/

Primary Examiner, Art Unit 2123